



TV

Let's make things better.



PHILIPS

IMPORTANT

Information for users in the UK (*not applicable outside the UK*)

Positioning the TV

For the best results, choose a position where light does not fall directly on the screen, and at some distance away from radiators or other sources of heat. Leave a space of at least 5 cm all around the TV for ventilation, making sure that curtains, cupboards etc. cannot obstruct the air flow through the ventilation apertures.

The TV is intended for use in a domestic environment only and should never be operated or stored in excessively hot or humid atmospheres.

General Points

Please take note of the section entitled 'Tips' at the end of this booklet.

Interference

The Department of Trade and Industry operates a Radio Interference Investigation Service to help TV licence holders improve reception of BBC and IBA programmes where they are being spoilt by interference.

If your dealer cannot help, ask at a main Post Office for the booklet "How to Improve Television and Radio Reception".

Mains connection

Before connecting the TV to the mains, check that the mains supply voltage corresponds to the voltage printed on the type plate on the rear panel of the TV. If the mains voltage is different, consult your dealer.

Important

This apparatus is fitted with an approved moulded 13 Amp plug. To change a fuse in this type of plug proceed as follows:

1. Remove fuse cover and fuse.
2. Fit new fuse which should be a BS1362 5A, A.S.T.A. or BSI approved type.
3. Refit the fuse cover.

In order to maintain conformity to the EMC directive, the mains plug on this product must not be removed.

Connecting the aerial

The aerial should be connected to the socket marked  at the back of the set. An inferior aerial is likely to result in a poor, perhaps unstable picture with ghost images and lack of contrast. Make-shift loft or set-top aerials are often inadequate. Your dealer will know from experience the most suitable type for your locality.

Should you wish to use the set in conjunction with other equipment, which connects to the aerial socket such as TV games, or a video camera it is recommended that these be connected via a combiner unit to avoid repeated connection and disconnection of the aerial plug.

Fitting the stand (if provided)

Use only the stand provided with the set, making sure that the fixings are properly tightened. A diagram showing how to assemble the stand is packed with the stand.

Never use a make-shift stand, or legs fixed with woodscrews.

Introduction

Thank you for purchasing this television set.
 This handbook has been designed to help you install and operate your TV set.
 We would strongly recommend that you read it thoroughly.
 We hope our technology meets entirely with your satisfaction.

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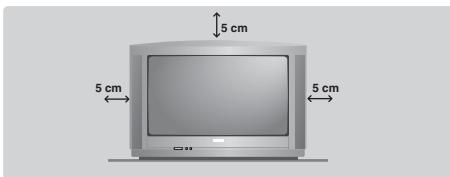
Recycling

The materials used in your set are either reusable or can be recycled.
 To minimise environmental waste, specialist companies collect used appliances
 and dismantle them after retrieving any materials that can be used again (ask
 your dealer for further details).



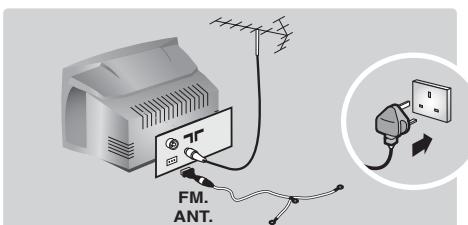
Installing your television set

1 Positioning the television set



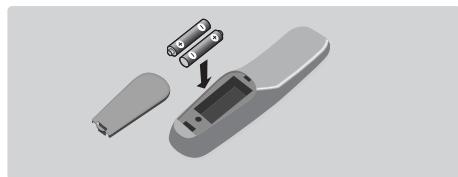
Place your TV on a solid, stable surface, leaving a space of at least 5 cm around the appliance. To avoid accidents, do not put anything on the set such as a cloth or cover, a container full of liquid (vase) or a heat source (lamp). The set must not be exposed to water.

2 Connections



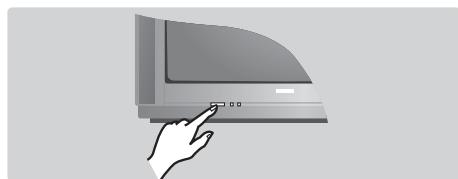
- Insert the aerial plug into the socket at the rear of the set.
- For the versions equipped with a radio: insert the radio aerial socket into the FM ANT socket using the adapter supplied. If you are using an indoor aerial, reception may be difficult in certain conditions. You can improve reception by rotating the aerial. If the reception remains poor, you will need to use an external aerial.
- Insert the mains plug into a wall socket (220-240V / 50 Hz).

3 Remote control



Insert the two R6-type batteries (supplied) making sure that they are the right way round. Check that the mode selector is set to TV. The batteries supplied with this appliance do not contain mercury or nickel cadmium. If you have access to a recycling facility, please do not discard your used batteries (if in doubt, consult your dealer). When the batteries are replaced, use the same type.

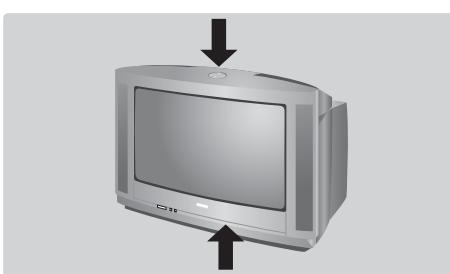
4 Switching on



To switch on the set, press the on/off key. A red indicator comes on and the screen lights up. Go straight to the chapter Quick installation on page 4. If the television remains in standby mode, press **P +** on the remote control. The indicator will flash when you use the remote control.

The keys on the TV set

The television set has 4 keys which are located on the front or the top of the set depending on the model.



The VOLUME - (- +) keys are used to adjust sound levels. The PROGRAM - (- **P +**) keys are used to select the required programmes. To access the menus, simultaneously hold down the - and + keys. The PROGRAM - + keys may then be used to select an adjustment and the - + keys to make that adjustment. To exit from the menus, hold down the 2 - and + keys.

Note: when the **Child Lock** function is activated, these keys are unavailable (refer to **Features** menu on page 7).

Remote control keys

Screen information / permanent no.

To display / clear the program number, name (if it exists), time, audio mode and time remaining for the sleep feature. Press the key for 5 seconds to activate permanent display of the number. This key is also used to exit from the menu.

Surround Sound

(only available on certain versions)

To activate / deactivate the surround sound effect. In stereo, this gives the impression that the speakers are further apart. For models equipped with Virtual Dolby Surround*, you can experience Dolby Surround Pro Logic sound effects. In mono, a stereo spatial effect is simulated.

VCR key (p.11)

Pre-set sound

Used to access a series of stored settings: **Speech**, **Music**, **Theatre** and return to **Personal**.

Menu

To call up or exit the menus.

Cursor

These 4 keys are used to move around the menus or provide direct access to the different 16:9 formats (p.9).

Volume

To adjust the sound level

Mute

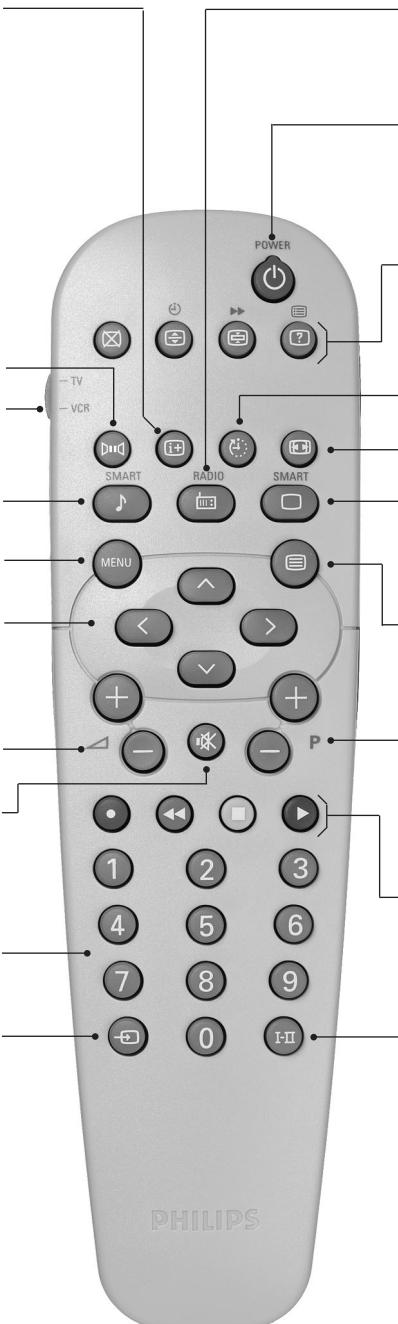
To mute or restore the sound.

Number keys

Direct access to the programmes. For a 2 digit program, enter the 2nd digit before the dash disappears.

Selection of EXT socket

Press several times to select EXT1, EXT2, S-VHS and AV.



Radio / TV mode

To switch the TV set to radio or TV mode (for versions equipped with radio).

Standby

Lets you place the TV set on standby. To turn on the TV, press P (0 to 9) (or).

Teletext keys (p. 8), VCR keys (p.11) and list of radio stations (p. 5)

Sleep

To select an automatic standby after a preset time (from 0 to 240 minutes).

16:9 modes (p. 9)

Pre-set image

Used to access a series of stored settings: **Rich**, **Natural**, **Soft**, **Multimedia** and return to **Personal**.

Teletext (p. 8)

Program selection

To access the next or previous programme. The number, (name) and sound mode are displayed for a few moments.

For some programs, the title of the program will be displayed at the bottom of the screen.

Teletext keys (p.8) or VCR keys (p.11)

Sound mode

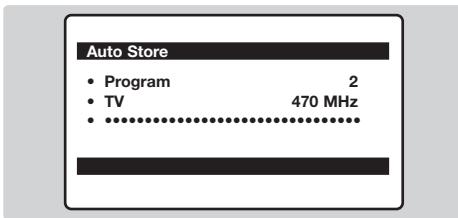
Used to force programmes in **Stereo** to **Mono** or, for bilingual programs, to choose between **Dual I** or **Dual II**. For TV sets equipped for Nicam reception, depending on the programmes, you can force the **Stereo Nicam** sound to **Mono** or select between **Nicam Dual I**, **Nicam Dual II** and **Mono**.

The **Mono** indication is red when in forced position.

* "Dolby" and the double-D symbols are trademarks of the Dolby Laboratories Licensing Corporation.
Manufactured under license of Dolby Laboratories Licensing Corporation.

Quick installation

The first time you switch on the television, a menu appears on the screen and the tuning starts automatically.



If the menu is not displayed, press and hold down the Δ - and Δ + keys on the TV set for 5 seconds to start the tuning.

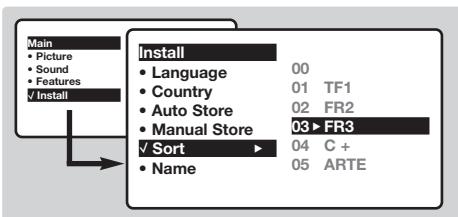
All the available TV programs and radio stations* will be stored. This operation takes a few minutes. The display shows the progress of

the search and the number of programs found. At the end of the search, the menu disappears. To exit or interrupt the search, press **MENU**. If no program is found, consult the possible solutions p. 12.

- ➊ If the transmitter or cable network sends the automatic sort signal, the programs will be numbered correctly. In this case, the installation is complete.
 - ➋ If this is not the case, you need to use the **Sort** menu to number the programs correctly. Some transmitters or cable networks broadcast their own sort parameters (region, language, etc.). In this case, indicate your choice using the Δ / ∇ keys and validate with \triangleright .
- * Only on versions equipped with a radio.

Program sort

- ➊ Press key **MENU**. The **Main menu** is displayed on the screen.



- ➋ With the cursor, select the **Install** menu followed by the **Sort** menu.
- ➌ Select the programme you want to move using the Δ / ∇ keys and press \triangleright .
- ➍ Then use the Δ / ∇ keys to select the new number and validate with \triangleleft .
- ➎ Repeat steps ➌ and ➍ for each program you wish to renumber.
- ➏ To quit the menus, press **END**.

Program name

If required, you can give a name to the programmes and external connectors.

Note: on installation, the programs are named automatically when an identification signal is sent.

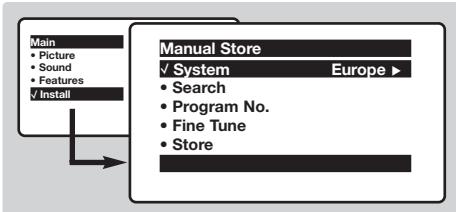
- ➊ Press the **MENU** key.
- ➋ With the cursor, select the **Install** menu, then **Name**.
- ➌ Use the Δ / ∇ keys to select the programme to name or rename.

- ➍ Use the \triangleleft / \triangleright keys to move around the name display area (5 characters) and the Δ / ∇ keys to select the characters.
- ➎ When the name has been entered, use the \triangleleft key to exit. The name is stored.
- ➏ Repeat steps ➌ to ➎ for each programme you wish to name.
- ➐ To quit the menus, press **END**.

Manual store

This menu is used to store the programmes one at a time.

- ① Press the **MENU** key.
- ② With the cursor, select the **Install** menu then **Manual store**:



- ③ **System:** select **Europe** (automatic detection*) or **Western Europe** (BG standard), **Eastern Europe** (DK standard), **United Kingdom** (I standard) or **France** (LL' standard).

* Except for France (LL' standard), you must select choice **France**.

- ④ **Search:** press **▷**. The search starts. Once a programme is found, the scanning stops and its name is displayed (when available). Go to the next step. If you know the frequency of the required programme, this can be entered directly using the **①** to **⑨** keys.
If no picture is found, consult the possible solutions (p. 12).
- ⑤ **Program No.:** enter the required number with the **◀ ▶** or **①** to **⑨** keys.
- ⑥ **Fine Tune:** if the reception is not satisfactory, adjust using the **◀ ▶** keys.
- ⑦ **Store:** press **▷**. The program is stored.
- ⑧ Repeat steps **④** to **⑧** for each programme to store.
- ⑨ To quit the menus, press **END**.

Other settings in the Install menu

- ① Press the **MENU** key and select the **Install** menu:
- ② **Language:** to change the display language for the menus.
- ③ **Country:** to select your country (**GB** for Great Britain).
This setting is used for the search, automatic programme sort and teletext display. If your country does not appear in the list, select "...".
- ④ **Auto Store:** to start automatic search for all programmes available in your region. If the transmitter or cable network sends the

automatic sort signal, the programmes will be numbered correctly. If this is not the case, you need to use the **Sort** menu to renumber the programmes (see p. 4).

*Some transmitters or cable networks broadcast their own sort parameters (region, language, etc.). In this case, indicate your choice using the **▲ ▼** keys and validate with **▷**. To quit or interrupt the search, press **MENU**. If no picture is found, consult the possible solutions (p. 12).*

- ⑤ To quit the menus, press **END**.

Using the radio (only available on certain versions)

Choice of TV or radio mode

Press the **TV** key on the remote control to switch the TV set to either TV or radio mode. In radio mode, the number, station name (if available), frequency and sound mode are displayed on the screen. To enter the station names, use the **Name** menu (p. 4).

Program selection

Use the **① ⑨** or **- P +** keys to select the FM stations (from 1 to 40).

List of radio stations

Press the **LIST** key to display the list of radio stations radio. Use the **▲ ▼** keys to change station and the **END** key to exit.

Using the radio menus

Use the **MENU** key to access the specific radio setting.

Search for radio stations

If you used the quick installation, all available FM stations have already been stored. To start a new search, use the **Install : Auto Store** menu (for a complete search) or **Manual Store** (for a station by station search). The **Sort** and **Name menus** let you sort or name the radio stations. Operation of these menus is the same as for the TV menus.

Screensaver

Use the **END** key to activate/deactivate the radio screensaver.

Picture settings

- ① Press  then 

- ② Use the   keys to select a setting and the   keys to adjust.

Note: during the picture adjustment, only the selected line remains displayed. Press   to display the menu again.

- ③ Once the adjustments have been made, select **Store** and press  to store them. Press  to exit.

Description of the adjustments:

- **Brightness:** this changes picture brilliance.
- **Colour:** this changes the intensity of the colour.
- **Contrast:** this changes the difference between the light and dark tones.
- **Sharpness:** this changes the picture definition.
- **Colour Temp.:** this changes the colour rendering: **Cold** (bluer), **Normal** (balanced) or **Warm** (redder).
- **Store:** to store the picture adjustments and settings (as well as the settings for **Contrast +** and **NR** in the **Features** menu).

Sound adjustments

- ① Press , select **Sound** () and press 

- ② Use the   keys to select a setting and the   keys to adjust.
③ Once the adjustments have been made, select **Store** and press  to store these changes.

- ④ To quit the menus, press .

Description of the settings:

- **Treble:** this alters the high frequency sounds.
- **Bass:** this alters the low frequency sounds.
- **Balance:** this balances the sound on the left and right speakers.
- **Delta Volume***: this is used to compensate any volume discrepancies between the different programs or EXT sockets. This setting is available for programs 0 to 40 and the EXT sockets.
- **AVL*** (Automatic Volume Leveller): this is used to limit increases in sound, especially on program change or advertising slots.
- **Store:** this is used to store the sound settings.

* Only available on certain versions.

Feature settings

- ① Press , select **Features** () and press 

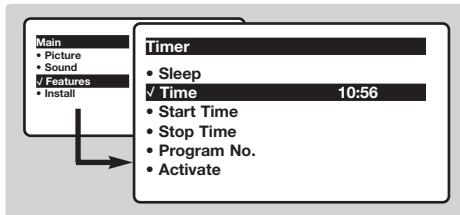
Caution: to store the **Contrast +** and **NR** settings, use the **Store** choice in the **Picture** menu.

- ⑤ **Rotation** (only available on very large screen sets): large screen sets are sensitive to terrestrial magnetic field variations. This setting is used to compensate for this by adjusting the picture rotation.
⑥ To quit the menus, press .

Timer function (only available on certain versions)

This menu lets you use the TV set as an alarm.

- ① Press the **MENU** key.
- ② With the cursor, select the **Features** menu then **Timer**:
- ③ **Sleep:** to select an automatic standby period.



This setting is also available via the **CH** key on the remote control.

- ④ **Time:** enter the current time.

Note: the time is updated automatically each time the TV set is switched on via the teletext information on programme 1. If this program does not have teletext, the update will not take place.

- ⑤ **Start Time:** enter the start time.
- ⑥ **Stop Time:** enter the standby time.
- ⑦ **Program No.:** enter the number of the programme for the wake-up alarm. For models equipped with a radio, you can select an FM station by using the **<>** keys (the **0-9** keys are only used to select TV programs).

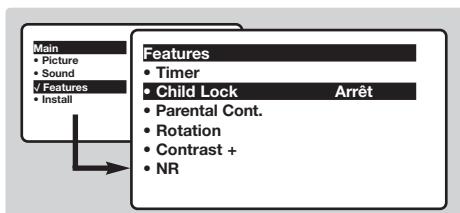
- ⑧ **Activate:** the settings include:
 - Once for a single alarm,
 - Daily for each day,
 - Stop to cancel.
- ⑨ Press **OK** to put the TV set in standby. It will automatically come on at the time programmed. If you leave the TV set on, it will just change programmes at the time entered (and will go to standby mode at the **Stop Time**).
By combining the **TV lock** and **Timer** functions, you can restrict the period during which the TV set is used, for example by your children.

TV lock (only available on certain versions)

You can block certain programs or inhibit use of the TV set completely by locking the keys.

Child lock

- ① Press **MENU**.
- ② With the cursor, select the **Features** menu and position **Child Lock** to **On**.
- ③ Turn off the TV set and hide the remote control. The TV set cannot be used (except via the remote control).
- ④ To cancel: position **Child Lock** to **Off**.



Parental control

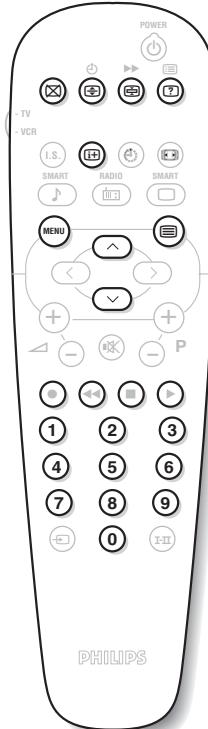
- ① Press the **MENU** key, select the **Features** menu then **Parental Cont.:**
- ② You must enter your secret access code.

The first time you enter this, enter code 0711 twice and then enter your new code choice. The menu is displayed.

- ③ **Parental Cont.:** Use the **▲▼** keys to select the TV programme required and validate with **OK**. The **🔒** symbol will be displayed opposite the programmes or sockets that are locked. From now on, to view a locked programme, you must enter your secret code, otherwise the screen will stay blank.
The access to the **Install** menu is also locked.
Caution, for encrypted programs using an external decoder, you must lock the corresponding EXT socket.
- ④ **Change code:** this allows you to enter a new 4 digit code. Confirm your new code by entering it a second time.
If you have forgotten your secret code, enter the universal code 0711 twice.
- ⑤ **Unlock all:** this is used to unlock all locked programmes.
- ⑥ **Lock All:** this is used to lock all the TV programmes and EXT connectors.
- ⑦ Press the **OK** key to quit.

Teletext

Teletext is an information system broadcast by certain channels which can be consulted like a newspaper. It also offers access to subtitles for viewers with hearing problems or who are not familiar with the transmission language (cable networks, satellite channels, etc.).



Press :



Teletext call

You will obtain:

This is used to call teletext, change to transparent mode and then exit. The summary appears with a list of items that can be accessed. Each item has a corresponding 3 digit page number.

If the channel selected does not broadcast teletext, the indication 100 will be displayed and the screen will remain blank (in this case, exit teletext and select another channel).

0/9



Selecting a page

Enter the number of the page required using the ① to ⑨ or ① P + keys, ① ② ③. The number is displayed top left, the counter turns and then the page is displayed. Repeat this operation to view another page.

If the counter continues to search, this means that the page is not transmitted. Select another number.



Direct access to the items

Coloured areas are displayed at the bottom of the screen. The 4 coloured keys are used to access the items or corresponding pages.

The coloured areas flash when the item or the page is not yet available.



Contents

This returns you to the contents page (usually page 100).



Temporary stop

This is used to temporarily disable or activate the teletext display.



Enlarge a page

This allows you to display the top or bottom part of the page and then return to normal size.



Stop sub-page acquisition

Certain pages contain sub-pages which are automatically displayed successively. This key is used to stop or resume sub-page acquisition. The indication ④ appears top left.



Hidden information

To display or hide the concealed information (games solutions).



Favourite pages

Instead of the standard coloured areas displayed at the bottom of the screen, you can store 4 favourite pages on the first 40 channels which can then be accessed using the coloured keys (red, green, yellow, blue). Once set, these favourite pages will become the default every time teletext is selected.

- 1 Press the key to change to favourite pages mode.
 - 2 Display the teletext page that you want to store.
 - 3 Press the coloured key of your choice for 3 seconds. The page is now stored.
 - 4 Repeat the operation with the other coloured keys.
 - 5 Now when you consult teletext, your favourite pages will appear in colour at the bottom of the screen.
- To temporarily retrieve the standard items, press .
- To clear everything, and return the standard items as the default, press for 5 seconds.

16:9 Formats

The pictures you receive may be transmitted in 16:9 format (wide screen) or 4:3 format (conventional screen). 4:3 pictures sometimes have a black band at the top and bottom of the screen (letterbox format). This function allows you to optimise the picture display on screen.

Automatic switching

This TV set is also equipped with automatic switching which will select the correct-screen format, provided the specific signals are transmitted with the programmes.

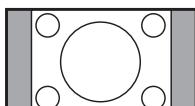
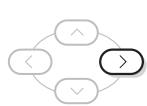
This automatic format can also be modified manually.

Using the different screen formats

Press the  key (or ) to select the different modes:

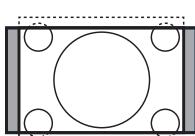
4:3, Zoom 14:9, Zoom 16:9, Subtitle Zoom, Super Wide and Widescreen.

You can also access these settings with key .



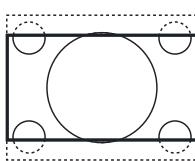
4:3 Mode

The picture is reproduced in 4:3 format and a black band is displayed on either side of the picture. The picture may be progressively enlarged using the   keys.



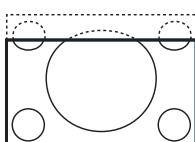
Zoom 14:9 Mode

The picture is enlarged to 14:9 format, a thin black band remains on both sides of the picture. The   keys allow you to compress and move the image vertically to view the top or bottom of the picture (subtitles).



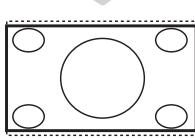
Zoom 16:9 Mode

The picture is enlarged to 16:9 format. This mode is recommended when displaying pictures which have black bands at the top and bottom (letterbox format). Use the   keys if you wish to compress and move the image vertically to view the top or bottom of the picture.



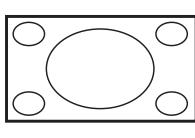
Subtitle Zoom Mode

This mode is used to display 4:3 pictures using the full surface of the screen leaving the sub-titles visible. Use the   keys to increase or decrease the compression at the bottom of the screen.



Super Wide Mode

This mode is used to display 4:3 pictures using the full surface of the screen by enlarging the sides of the picture. The   keys allow you to scroll the image up or down the screen.



Widescreen Mode

This mode restores the correct proportions of pictures transmitted in 16:9 using full screen display.

Note: If you display a 4:3 picture in this mode, it will be enlarged horizontally.

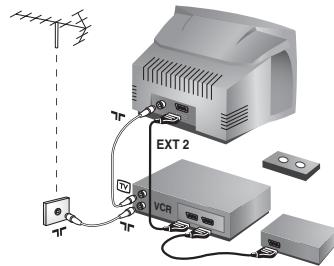
Connecting peripheral equipment

The television has 2 external sockets situated at the back of the set (EXT1 and EXT2).

The EXT1 socket has audio, CVBS/RGB inputs and audio, CVBS outputs.

The EXT2 socket has audio, CVBS/S-VHS inputs and audio, CVBS outputs.

Video recorder



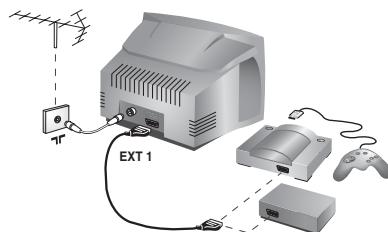
Carry out the connections shown opposite, using a good quality euroconnector cable.

If your video recorder does not have a euroconnector socket, the only connection possible is via the aerial cable. You will therefore need to tune in your video recorder's test signal and assign it programme number 0 (refer to manual store, p. 6). To reproduce the video recorder picture, press ①.

Video recorder with decoder

Connect the decoder to the second euroconnector socket of the video recorder. You will then be able to record scrambled transmissions.

Other equipment

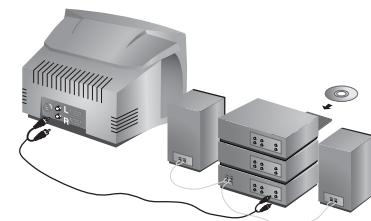


Satellite receiver, decoder, CDV, games, etc.

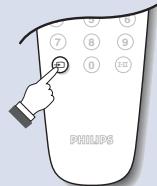
Carry out the connections shown opposite.

To optimise picture quality, connect the equipment which produces the RGB signals (digital decoder, games, etc.) to EXT1, and the equipment which produces the S-VHS signals (S-VHS and Hi-8 video recorders, certain DVD drives) to EXT2 and all other equipment to either EXT1 or EXT2.

Amplifier (only available on certain versions)



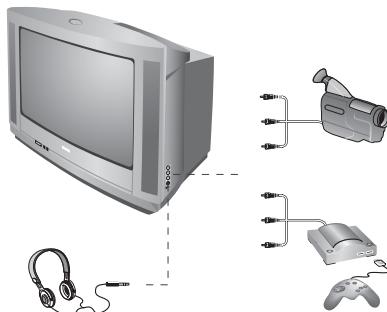
To connect to a hi-fi system, use an audio connection cable and connect the "L" and "R" outputs on the TV set to the "AUDIO IN" "L" and "R" input on your hi-fi amplifier.



To select connected equipment

Press the **(+)** key to select **EXT1, EXT2, S-VHS2** (S-VHS signals from the EXT2 socket) and **AV** for connections on the front panel. Most equipment (decoder, video recorder) carries out the switching itself.

Side connections



Make the connections as shown opposite.

With the key, select AV.

For a monophonic device, connect the audio signal to the AUDIO L input. Use the key to reproduce the sound on the left and right speakers of the TV set.

Headphones

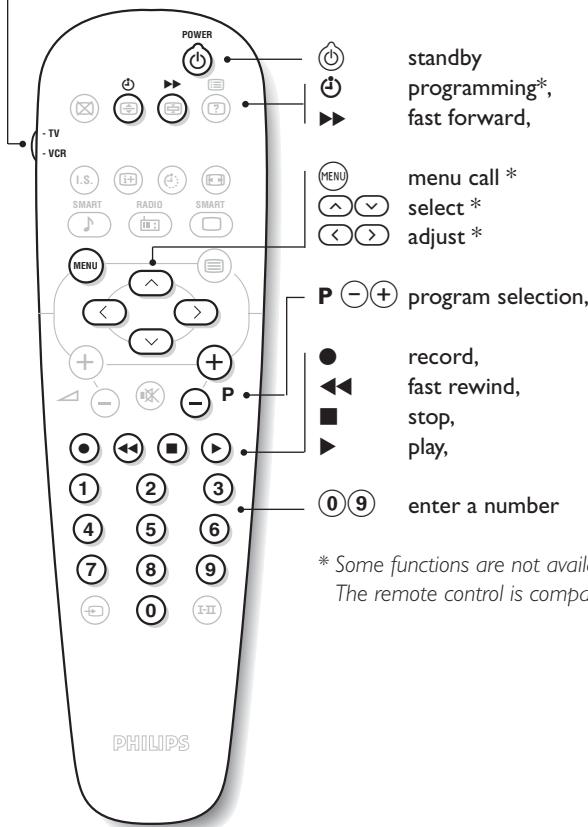
When headphones are connected, the sound on the TV set will be cut. The keys are used to adjust the volume level.

The headphone impedance must be between 32 and 600 Ohms.

VCR key

The remote control lets you control the main functions of the VCR.

Press and hold down the VCR key located on the side of the remote control, then press one of the keys to access the VCR functions:



* Some functions are not available on all VCRs.

The remote control is compatible with all VCRs using the RC5 standard.

Tips

Poor reception

The proximity of mountains or high buildings may be responsible for ghost pictures, echoing or shadows. In this case, try manually adjusting your picture: see **Fine Tuning** (p.5) or modify the orientation of the outside aerial.

Does your antenna enable you to receive broadcasts in this frequency range (UHF or VHF band)?

In the event of difficult reception (snowy picture) switch the **NR** on the **Features** menu to **ON**. (p. 6).

No picture

If the television does not switch on, please press the standby key  (located on the remote control) twice.

Have you connected the aerial socket properly?

Have you chosen the right system? (p. 5).

Poorly connected euroconnector cables or aerial sockets are often the cause of picture or sound problems (sometimes the connectors can become half disconnected if the TV set is moved or turned). Check all connections.

Peripheral equipment gives a black and white picture

You have not selected the right socket with the  key: S-VHS2 (S-VHS3) instead of EXT2 (EXT3). To play a video cassette, check that it has been recorded under the same standard (PAL, SECAM, NTSC) which can be replayed by the video recorder.

The remote control no longer works.

Check that the mode selector on the side of the remote control is set to TV.

No sound

If on certain channels you receive a picture but no sound, this means that you do not have the correct TV system. Modify the **System** setting (p. 5).

Teletext

Are certain characters not displayed correctly? Check that the **Country** setting has been positioned correctly (p.5).

Remote control

The TV set does not react to the remote control; the indicator on the set no longer flashes when you use the remote control? Replace the batteries.

Standby

When you switch the TV set on it remains in standby mode and the indication **Locked** is displayed when you use the keys on the TV set?

The **Child Lock** function is switched **On** (p. 7).

If the set receives no signal for 15 mins, it automatically goes into standby mode.

To save power, your set is fitted with components that give it a very low power consumption when in standby mode (less than 3 W).

Still no results?

If your TV set breaks down, never attempt to repair it yourself: contact your dealer's after-sales service.

Cleaning the set

Only use a clean, soft and lint-free cloth to clean the screen and the casing of your set. Do not use alcohol-based or solvent-based products.

Glossary

RGB Signals: These are 3 Red, Green and Blue video signals which directly drive the red, green and blue emitters in the cathode ray tube. Using these signals provides better picture quality.

S-VHS Signals: These are 2 separate Y/C video signals from the S-VHS and Hi-8 recording standards.

The luminance signals Y (black and white) and chrominance signals C (colour) are recorded separately on the tape. This provides better picture quality than with standard video (VHS and 8 mm) where the Y/C signals are combined to provide only one video signal.

NICAM sound: Process by which digital sound can be transmitted.

System: Television pictures are not broadcast in the same way in all countries. There are different standards: BG, DK, I, and L L'. The **SYSTEM** setting (p. 6) is used to select these different standards. This is not to be confused with PAL or SECAM colour coding. Pal is used in most countries in Europe, Secam in France, Russia and most African countries. The United States and Japan use a different system called NTSC. The inputs EXT1 and EXT2 are used to read NTSC coded recordings.

16:9: Refers to the ration between the length and height of the screen.

Wide screen televisions have a ration of 16/9, conventional screen TV sets have a ration of 4/3.

Table of TV frequencies

EUROPE	
CHANNEL	FREQ (MHz)
E2.....	48.25
E3.....	55.25
E4.....	62.25
E5.....	175.25
E6.....	182.25
E7.....	189.25
E8.....	196.25
E9.....	203.25
E10.....	210.25
E11.....	217.25
E12.....	224.25
S1	105.25
S2	112.25
S3	119.25
S4	126.25
S5	133.25
S6	140.25
S7	147.25
S8	154.25
S9	161.25
S10.....	168.25
S11.....	231.25
S12.....	238.25
S13.....	245.25
S14.....	252.25
S15.....	259.25
S16.....	266.25
S17.....	273.25
S18.....	280.25
S19.....	287.25
S20.....	294.25
H1.....	303.25
H2.....	311.25
H3.....	319.25
H4.....	327.25
H5.....	335.25
H6.....	343.25
H7.....	351.25
H8.....	359.25
H9.....	367.25
H10.....	375.25
H11.....	383.25
H12.....	391.25
H13.....	399.25
H14.....	407.25
H15.....	415.25
H16.....	423.25
H17.....	431.25
H18.....	439.25
H19.....	447.25
21.....	471.25
22.....	479.25
23.....	487.25
24.....	495.25
25.....	503.25
26.....	511.25
27.....	519.25
28.....	527.25
29.....	535.25
30.....	543.25
31.....	551.25
32.....	559.25
33.....	567.25
34.....	583.25
35.....	591.25
36.....	599.25
38.....	607.25
39.....	615.25
40.....	623.25
41.....	631.25
42.....	639.25
43.....	647.25
44.....	655.25
45.....	663.25
46.....	671.25
47.....	679.25
49.....	695.25
50.....	703.25
51.....	711.25
52.....	727.25
54.....	735.25
55.....	751.25
57.....	759.25
58.....	767.25
59.....	775.25
60.....	783.25
61.....	791.25
62.....	799.25
63.....	807.25
64.....	815.25
65.....	823.25
66.....	831.25
68.....	839.25
69.....	855.25

EASTERN EUROPE	
CANAL	FREQ (MHz)
R1.....	49.75
R2.....	59.25
R3.....	77.25
R4.....	85.25
R5.....	93.25
R6.....	175.25
R7.....	183.25
R8.....	191.25
R9.....	199.25
R10.....	207.25
R11.....	215.25
R12.....	223.25
S1	105.25
S2	112.25
S3	119.25
S4	126.25
S5	133.25
S6	140.25
S7	147.25
S8	154.25
S9	161.25
S10.....	168.25
S11.....	231.25
S12.....	238.25
S13.....	245.25
S14.....	252.25
S15.....	259.25
S16.....	266.25
S17.....	273.25
S18.....	280.25
S19.....	287.25
S20.....	294.25
H1.....	303.25
H2.....	311.25
H3.....	319.25
H4.....	327.25
H5.....	335.25
H6.....	343.25
H7.....	351.25
H8.....	359.25
H9.....	367.25
H10.....	375.25
H11.....	383.25
H12.....	391.25
H13.....	399.25
H14.....	407.25
H15.....	415.25
H16.....	423.25
H17.....	431.25
H18.....	439.25
H19.....	447.25
21.....	471.25
H14.....	407.25
H15.....	415.25
H16.....	423.25
H17.....	431.25
H18.....	439.25
H19.....	447.25
21.....	471.25
22.....	479.25
23.....	487.25
24.....	495.25
25.....	503.25
26.....	511.25
27.....	519.25
28.....	527.25
29.....	535.25
30.....	543.25
31.....	551.25
32.....	559.25
33.....	567.25
34.....	575.25
35.....	583.25
36.....	591.25
37.....	599.25
38.....	607.25
39.....	615.25
40.....	623.25
41.....	631.25
42.....	639.25
43.....	647.25
44.....	655.25
45.....	663.25
46.....	671.25
47.....	679.25
49.....	687.25
50.....	695.25
51.....	703.25
52.....	711.25
53.....	727.25
54.....	735.25
55.....	743.25
56.....	751.25
57.....	759.25
58.....	767.25
59.....	775.25
60.....	783.25
61.....	791.25
62.....	799.25
63.....	807.25
64.....	815.25
65.....	823.25
66.....	831.25
67.....	839.25
68.....	839.25
69.....	855.25

FRANCE	
CANAL	FREQ (MHz)
2.....	55.75
3.....	60.50
4.....	63.75
5.....	176.0
6.....	184.0
7.....	192.0
8.....	200.0
9.....	208.0
10.....	216.0
B.....	116.75
C.....	128.75
D.....	140.75
E.....	159.75
F.....	164.75
G.....	176.75
H.....	188.75
I.....	200.75
J.....	212.75
K.....	224.75
L.....	236.75
M.....	248.75
N.....	260.75
O.....	272.75
P.....	284.75
Q.....	296.75
H1.....	303.25
H2.....	311.25
H3.....	319.25
H4.....	327.25
H5.....	335.25
H6.....	343.25
H7.....	351.25
H8.....	359.25
H9.....	367.25
H10.....	375.25
H11.....	383.25
H12.....	391.25
H13.....	399.25
H14.....	407.25
H15.....	415.25
H16.....	423.25
H17.....	431.25
H18.....	439.25
H19.....	447.25
21.....	471.25
22.....	479.25
23.....	487.25
24.....	495.25
25.....	503.25
26.....	511.25
27.....	519.25
28.....	527.25
29.....	535.25
30.....	543.25
31.....	551.25
32.....	559.25
33.....	567.25
34.....	575.25
35.....	583.25
36.....	591.25
37.....	599.25
38.....	607.25
39.....	615.25
40.....	623.25
41.....	631.25
42.....	639.25
43.....	647.25
44.....	655.25
45.....	663.25
46.....	671.25
47.....	679.25
48.....	687.25
49.....	695.25
50.....	703.25
51.....	711.25
52.....	719.25
53.....	727.25
54.....	735.25
55.....	743.25
56.....	751.25
57.....	759.25
58.....	767.25
59.....	775.25
60.....	783.25
61.....	791.25
62.....	799.25
63.....	807.25
64.....	815.25
65.....	823.25
66.....	831.25
67.....	839.25
68.....	839.25
69.....	855.25

ITALY	
CANALE	FREQ (MHz)
A.....	53.75
B.....	62.25
C.....	82.25
D.....	175.25
E.....	183.75
F.....	192.25
G.....	201.25
H.....	210.25
H1.....	217.25
S1.....	105.25
S2.....	112.25
S3.....	119.25
S4.....	126.25
S5.....	133.25
S6.....	140.25
S7.....	147.25
S8.....	154.25
S9.....	161.25
S10.....	168.25
S11.....	231.25
S12.....	238.25
S13.....	245.25
S14.....	252.25
S15.....	259.25
S16.....	266.25
S17.....	273.25
S18.....	280.25
S19.....	287.25
S20.....	294.25
H1.....	303.25
H2.....	311.25
H3.....	319.25
H4.....	327.25
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49.....	695.25
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51.....	711.25
52.....	719.25
53.....	727.25
54.....	735.25
55.....	743.25
56.....	751.25
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58.....	767.25
59.....	775.25
60.....	783.25
61.....	791.25
62.....	799.25
63.....	807.25
64.....	815.25
65.....	823.25
66.....	831.25
67.....	839.25
68.....	839.25
69.....	855.25

English

L01 16:9 - 3111 256 1562..3

